TABLE II-10: Average Annual Cash Flows and Noncash Benefits in the First and Fifth Decades by Alternative (Million Dollars - 1982)
(First decade planned, subsequent decades projected)

Alternative (Ranked in order of decreasing PNV)	Decade 1 Net Receipts	Total Costs	Total Receipts	Noncash Benefits to Users	Decade 5 Net Receipts	Total Costs	Total Receipts	Noncash Benefits to Users
Max PNV (w/MRs)	13 9	14 0	27 9	6 3	18 5	13 6	32 1	8 3
NC (No Change)1/	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B-Mod	10 3	19 3	25 3	6 3	17 5	16 8	34 3	9 0
F	11 2	16 0	27 2	6 0	19 1	15 2	34 3	8 2
A (No Action)	10 1	15 2	25 3	5 8	17 4	15 2	32 6	7 5
I (Preferred)	7 7	15 9	23 6	5 8	13 6	14 5	28 1	8 2
C-Mod	5 2	12 3	17 5	5 6	4 1	11 6	15 7	8 4

1/The No Change Alternative is based on the 1979 Timber Resource Management Plan This plan was not an integrated resource management plan and not all resource uses and outputs were valued Consequently, there are differences in economic assumptions underlying the present net value calculations of the No Change Alternative and all other alternatives

3 Major Tradeoffs Among Alternatives

This section summarizes the relationships among the economic and social effects discussed in this chapter and the responses of the alternatives to the issues discussed in Chapter I and Appendix A The purpose is to highlight major tradeoffs or differences among alternatives Further discussion of differences is found in the previous sections of this chapter and in Chapter IV

To provide a framework for assessing tradeoffs, the long-term National, Regional, and Local resource demands or needs are briefly summarized (more detail is provided in Chapter III) The responses of the alternatives to the issues are displayed in Table II-11, and selected economic values and indicators of responsiveness to the issues are displayed in Table II-12 The differences and similarities among individual alternatives are then summarized

a *National, Regional, and Local Overview*

The Environmental Impact Statement for the 1985 Resources Planning Act Program estimates that total National demands will rise for all outputs of the National Forests At the same time, there is a strong demand to protect and enhance the quality of the environment

The Regional Guide for the Pacific Northwest Region estimates that demands for all outputs of National Forests will rise in Oregon and Washington Recreation use is expected to increase as the population increases and its characteristics change, with the bulk of recreation use coming from residents of the region Demand for wilderness recreation is expected to exceed the supply within the Region's Wilderness Preservation System. Demand could be met, in the near future at least, by utilization of undeveloped lands outside wildernesses Development of these lands would intensify pressure on the designated wildernesses

Demand for hunting and sport fishing is expected to increase by one-third between 1985 and 2000. Nonconsumptive uses of wildlife and fish are also expected to increase.

The demand for minerals is significant on a Local and National basis. On the Forest, gold and silver are of the highest interest for their speculative value. However, chrome and cobalt deposits could be of interest in the future

The National demand for timber is expected to rise faster than timber supply over the planning period (i e , 50 years) As demand nears or exceeds supply levels, stumpage prices will increase

The National Forests of the Pacific Northwest are the National Forest System's primary timber producer, with almost one-half of the current National Forest harvest coming from this region. The quantity of timber demanded regionally in 2000 is expected to be about one percent greater than the 1976 demand level The stumpage price of timber, however, is expected to rise substantially.

The local situation is similar to that of the Region, with a few important characteristics specific to the Malheur National Forest Zone of Influence. Local demand for wilderness is strong; however, population pressures from outside the local area have not created and are not expected to create demand which would exceed supply for that resource (assuming undeveloped areas will contribute to supply) The supply of dispersed and developed recreation opportunities would exceed the demand throughout the planning period in all alternatives, primarily due to the Forest's distance from population centers

The local demand for Forest timber is expected to be strong throughout the planning period because of the Forest's dominant supply position in the area, historical trends in local industry, and the high quality of the Forest timber inventory (i e , old-growth ponderosa pine) However, projections (See Chapters III and IV) show that timber supply from the Forest could meet demand under some alternatives if adjacent supply sources maintain near-historic output levels and local milling capacity does not grow abnormally The alternative which emphasizes amenities would not meet long-term local demand.

Though periodic fluctuations in employment will occur, current employment patterns are expected to continue in the local communities because timber-based employment opportunities would exist for the majority of alternatives The remote location of the Forest has resulted in less tourism and recreation than neighboring Forests in the Region; thus, the tourism industry has contributed to the local economy, but the primary industrial base has been commodity production-oriented. Although growth is expected in the tourism industry due to increased recreational use of the Forest, employment in commodity production enterprises (i.e , wood manufacturing, ranching) is expected to continue to be an important factor in community stability and growth. Those employed in local and regional commodity production enterprises will also comprise a substantial portion of the increase in recreation demand

b *Responses to Major Issues, Concerns, and Opportunities*

The issues provided the basis for formulating all alternatives except the No Change Alternative, this alternative is based on the 1979 Timber Resource Management Plan. The following table displays the responsiveness, in narrative terms, of each alternative (including the No Change Alternative) to the issues using selected indicators of responsiveness. The results are presented in words to assist in interpretation of the alternatives. Each of the issues also has a set of quantitative indicators of responsiveness that are presented in Table II-12, immediately following Table II-11 (issues)

In reviewing the public comments, additional key issues were identified as having importance to the forest planning process. In particular, road management is noted to have become of special concern to a great number of public respondents.

As a result, Alternative I (Preferred) has been developed to address these public concerns Road management as an identified issue is discussed in Chapter I of this Final Environmental Impact Statement (Section L) Chapter V of this Final Environmental Impact Statement (Section C) contains a summary of the comments received concerning road management and the Forest Service response to these public concerns Road management also appears as a key issue in Table II-ll and in Table II-12 in a display of the relationship between the indicators of response and each alternative.

TABLE II-11: Comparison of Issue and Concern Resolution by Alternative

Alternatives by Decreasing Vegetation Management	ISSUES Economic Stability[1]	Timber Management	Big Game Management
Alternative NC[2] (No Change)	Provides the highest increase in employment and income of all alternatives Payments to counties were not calculated in a strictly comparable manner and hence cannot easily be related to the other (viable) alternatives	Provides a potential yield of 40 2 million cubic feet (269 7 million board feet) in the first decade The potential yield is 117 percent of the programmed harvest level in the 1979 Timber Resources Plan Suitable acres are higher than any amounts for viable alternatives	The wildlife habitat managem ent goal is to manage all wildlife emphasis areas to benefit associated wildlife species The big game management goal is to provide an adequate distribution of cover and forage within wildlife emphasis areas, managed to retain 66 percent of the carrying capacity that existed in 1978 (not comparable to other alternatives)
Alternative B-Mod	Provides the highest increase in employment and income in the first decade Over the long term, income and employment opportunities would be highest of (viable) alternatives, due to increasing timber harvests Payments to counties remain the highest (excluding Alternative NC)	Has the highest allowable sale quantity in the first and later decades First decade harvest is 114% of the 1979 Timber Resource Plan programmed harvest level, 21 2 million cubic feet (121 million bd feet) of ponderosa pine is offered annually for harvest in the first decade Suitable timber acres are the highest of all alternatives (excluding the NC Alternative)	The big game habitat management goal is to provide at least 5% satisfactory cover in both summer and winter ranges across the forest Total cover amounts would be near optimum across the forest by the fifth decade, although the cover distribution would be suboptimal due to timber harvest patterns Elk habitat would be at 63% of capacity by the end of five decades
Alternative F	Provides the second highest increase in employment and income in the first decade Payments to counties are second highest in decade 1 and the highest in decade 5 (excluding the NC Alternative)	Has the second highest allowable sale quantity in the first decade and subsequent decades (106% of Timber Resource Plan programmed harvest level) 19 6 million cubic feet (112 million bd feet) of ponderosa pine would be offered for harvest in the first decade Suitable acres are second highest of all alternatives	The big game habitat management goal is to provide at least 5% satisfactory cover in both summer and winter ranges across the forest Total cover amounts would be above the optimal levels by the fifth decade Cover distribution would be suboptimal due to timber harvests Elk habitat would be at 66% of maximum capacity by decade 5
Alternative A (No Action)	Provides the base level for income and employment in the first decade However, timber harvests increase in the third decade which would result in some increase in employment and income in third and later decades Payments to counties are the third highest in decade 1, and in decade 5 (excluding the NC Alternative)	Has the third highest allowable sale quantity in the first decade (100% of Timber Resource Plan programmed harvest level), and third highest Allowable Sale Quantity in subsequent decades 18 5 million cubic feet (106 million board feet) of ponderosa pine will be offered annually for harvest in the first decade Suitable acres are third highest of alternatives	The big game habitat management goal is to provide at least 10% satisfactory (previously "thermal") cover in both summer and winter ranges (where possible) Total cover amounts would be above optimum levels by the fifth decade, with distribution suboptimal due to timber harvest placement Elk habitat would be at 66% of capability by the end of the five decades
Alternative I (Preferred)	Results in a slight decrease from base level employment and income in first decade, modest reductions from average historical employment levels occur (1980-89) Payments to counties are the fourth highest in first and fifth decades (excluding the NC Alternative)	Has the fourth highest allowable sale quantity of all alternatives (90% of Timber Resource Plan planned harvest level) and subsequent decades 16 1 million cubic feet (92 million board feet) of ponderosa pine is offered annually for harvest in the first 10 years Suitable acres are the second lowest of all alternatives	The big game habitat management goal is to provide at least 10% satisfactory cover in winter ranges (where possible) and 12% in summer ranges Wildlife emphasis areas would have at least 15% satisfactory cover Total cover amounts would be near optimum levels, with less than optimal distribution due to timber harvests Elk habitat would be at 72% of capability by the end of decade 5
Alternative C-Mod	Results in the greatest reduction in historical employment opportunities and income generated of all the alternatives Payments to counties are the lowest of all alternatives in the first and subsequent decades	Produces the lowest allowable sale quantity of all alternatives (66% of Timber Resource Plan planned harvest level) 12 2 million cubic feet (70 million board feet of ponderosa pine will be offered annually for harvest in the first decade Suitable acres are the lowest of all alternatives	The big game habitat management goal is to provide at least 15% satisfactory cover in both summer and winter ranges (where possible) Total cover amounts would be above optimal levels forest-wide, with distribution ranging from near-optimum to cover-excessive due to less timber harvesting Elk habitat would be at 71% of capability by the end of five decades

1/ Base employment and income is based on average annual Forest outputs from the 1980-89 period Unless stated otherwise, changes in employment and income are for the first decade, and are based on annual Forest outputs (i e , timber, range) proposed by the various alternatives considered Note only historical levels of job changes are considered in this analysis Any developments that occur outside of the traditional economic sectors of the local area are not indicated here and would invalidate this analysis

ISSUES		
Road Management	**Riparian**	**Roadless Areas**
No addtional road closure policy or goals other than the 564 miles of seasonal road closure that exists at the current time Road densities on the forest would be the highest of all alternatives Existing road densities of roughly 4 0 miles per section would continue to increase over time, as road closures would remain at 564 miles overall across the forest	Anadromous fish production potential would increase slowly through the planning horizon	Maintains 30 percent of the Forest's inventoried roadless areas in an undeveloped condition Pine Creek is assigned to timber and range emphasis Timber management is deferred, however
The road management goal is to limit open road densities to approximately 3 0 miles per square mile (section) across the forest Of the 9400 road miles existing across the forest at the end of the first decade, approximately 2900 miles would be closed, either by seasonal or permanent measures This alternative would continue to construct the greatest amount of roads of any viable alternative, although open road mileage would be limited to 6500 miles for the entire planning horizon (next five decades)	Anadromous fish production potential would increase by about 125 percent by the end of the second decade, and by more than 150 percent by the fifth decade	Maintains 7 percent of the Forest's inventoried roadless areas in an undeveloped condition Pine Creek roadless area is available for development
The road management goal is to limit open road densities to roughly 2 5 miles per section by the end of the fifth decade Total open road mileage would be limited at 5400 miles by the end of the planning horizon This alternative builds the second highest amount of new roads over the forest of any (viable) alternative	Anadromous fish production potential would increase by about 80 percent by the end of the second decade, and by about 140 percent by the fifth decade	Maintains 37 percent of the Forest's roadless areas in an undeveloped condition Pine Creek roadless area is available for development
The road management goal is to limit open road densities to roughly 2 5 miles per section by the end of the fifth decade Total open road mileage would by limited at 5400 miles by the end of the planning horizon This alternative builds the third highest amount of new roads over the forest of any (viable) alternative	Anadromous fish production potential would increase by 25 percent within two decades Production potential would increase by 35 percent by the fifth decade	Maintains 33 percent of the Forest's inventoried roadless areas in an undeveloped condition Pine Creek roadless area remains undeveloped
The road management goal is to limit open road densities to approximately 2 1 miles per section by the end of the fifth decade Total open road mileage would be limited at 4550 miles by the end of the planning horizon This alternative builds the fourth highest amount of new roads over the forest of any (viable) alternative	Anadromous fish production potential would increase by about 100 percent by the end of the second decade, and by about 180 percent by the fifth decade	Maintains 44 percent of the Forest's inventoried roadless areas in an undeveloped condition Pine Creek roadless area is available for development
The road management goal is to limit open road densities to approximately 2 1 miles per section by the end of the fifth decade Total open road mileage would be limited at 4550 miles by the end of the planning horizon This alternative builds the least amount of new roads over the forest of any (viable) alternative	This is the alternative with the highest potential anadromous fish production Anadromous fish production potential would increase by about 150 percent by the end of the second decade, and by nearly 200 percent by the fifth decade	Maintains 100 percent of the Forest's inventoried roadless areas in an undeveloped condition Pine Creek roadless area is recommended for and managed as wilderness

2/The timber management plan upon which the No Change Alternative is based was developed in 1979 The plan was not an integrated resource management plan, and consequently did not address all resource uses and outputs The missing information in this table cannot be reasonably estimated, since the original plan was based on yield tables and resource relationships which do not reflect the latest scientific technique or information, the standards in NFMA regulations, or are otherwise inappropriate Unit plans developed during 1978 provided new standards and management objectives which are best represented in Alternative A - No Action (Current Direction) Some of these standards and management objectives were incorporated in the timber management plan, and adjustments made in timber potential estimates to reflect them However, unit plans were not prepared for the entire Forest, so the timber management plan figures are only partially accurate, and some Forest-wide information or data is unavailable Consequently, the timber potential yield estimates may not be feasible to implement

Quantitative indicators of response can be used to gauge the effectiveness of the alternatives' responses to the issues The indicators of response presented in Table II-12 are

***Economic Stability Indicators:**

Projected annual payments to counties in the first decade.

Projected change in employment levels in the first decade.

Projected change in income levels in the first decade

***Timber Management Indicators:**

Average annual allowable sale quantity (ASQ), million cubic feet in the first and fifth decades, and million board feet in the first decade.

Acres of suitable timber land available for timber management activities.

Average annual allowable sale quantity offered as ponderosa pine, millions of board feet, in the first decade.

Average annual acres receiving clearcut timber harvest prescriptions in the first and fifth decades.

Average annual acres receiving overstory removal timber harvest prescriptions in the first and fifth decades

Average annual acres receiving uneven-aged management selection harvest prescriptions in the first and fifth decades.

Average diameter of harvestable timber in the first, fifth and tenth decades and average diameter harvestable over a 150 year planning horizon.

***Big-game Habitat Indicators:**

Habitat Effectiveness Index (HEI) in the first and fifth decades.

Potential summer elk populations in the first and fifth decades

Potential winter elk populations in the first and fifth decades

Big game cover quality in the first and fifth decades

Annual Wildlife-and-Fish-User days (WFUDs) produced by habitat management in the first and fifth decades

Acres in winter range enhancement.

Acres in winter range maintenance

Miles of road remaining open, in first and fifth decades

***Riparian Area and Fisheries Habitat Management Indicators:**

Livestock grazing strategies proposed for unsatisfactory riparian areas

Average annual animal unit months of livestock grazing permitted in riparian areas.

Expected increases in anadromous fish production (thousands of pounds)

Smolt habitat capability index (steelhead) in first and fifth decades

***Undeveloped Area Management Indicators:**

Acres of unroaded areas retained in an unroaded condition (i e., semiprimitive, motorized and nonmotorized management areas)

Management of Pine Creek Further Planning Area

***Road Management Indicators:**

Miles of timber purchaser road construction in the first and fifth decades

Miles of open roads in the first and fifth decades.

Total miles of system roads in the first and fifth decades

In addition to local issues and concerns, the Nation has an interest in ensuring that the Forest is managed in an economically efficient manner Other economic indicators included in Table II-12 are

Present Net Value (Present Net Value - millions of 1982 dollars).

First decade net receipts (average annual cash flows - millions of 1982 dollars).

c *Differences and Similarities of Individual Alternatives*

The alternatives are displayed in order of decreasing present net value in Table II-12, they are discussed below in the same order The alternatives are displayed in this manner to make it easy to see incremental changes in economic values as indicators of response change

All alternatives (except the No Change Alternative) would meet Management Requirements and other multiple-use and sustained yield requirements. Within these limitations, the goal of each alternative is to emphasize addressing one or more issues. To achieve this, other resource outputs must be limited or "traded off" (i e , what potential benefits would be foregone to respond to the issues emphasized in that alternative?)

Some groups of alternatives are similar in terms of benefits and tradeoffs involved, this is because some resources (examples include timber, forage, and economic efficiency) are strongly complementary Riparian areas and watersheds, fish habitat, wilderness, undeveloped recreation, and visual protection are another group of strongly complementary resources Alternatives A, B-Modified, and F tend to result in higher levels of market outputs, with varying strategies for nonmarket resources, whereas Alternative C-Modified tends to favor amenity values Alternative I appears to be an intermediate alternative The No Change Alternative continues the policies and practices (primarily timber management practices) of the 1979 Timber Resource Management Plan, and applicable management practices specified in various Unit Plans

TABLE II-12 Indicators of Response of Alternatives to Planning Issues and National Concerns (Average Annual Outputs)

Indicators of Response	Alternatives (In order of decreasing present net value) Max PNV[1/] (W/MR)	No Change NC	B-Mod	F	A	Preferred I	C-Mod
Economics							
Present Net Value (Millions of Dollars)	472 6	381 7	350 5	328 3	300 2	256 6	126 4
Economic Stability[2/]							
Payments to Counties (Millions of Dollars)							
Decade 1	7 0	6 0	7 4	6 8	6 3	5 9	4 4
Decade 5	N/A	N/A	8 6	8 6	8 2	7 0	3 9
First Decade Change in Employment (Jobs)	+554	N/A	+235	+ 96	0	-161	-573
First Decade Change in Income (Million Dollars)	+14 0	N/A	+ 7 8	+ 3 2	0	-5 3	-18 9
Timber Management							
First Decade Annual Allowable Sale Quantity							
Millions of Cubic Feet	47 7	N/A	44 0	40 9	38 6	34 8	25 5
Millions of Board Feet	273 0	N/A	252 0	233 7	220 6	200 0	146 0
Fifth Decade Annual Allowable Sale Quantity							
Millions of Cubic Feet	47 7	N/A	44 0	40 9	39 0	34 8	25 5
Suitable Timber Lands (Thousand Acres)	996	1,117	957	920	898	836	770
Allowable Sale Quantity Offered as Ponderosa Pine (Millions of Board Feet)							
First Decade	149 6	N/A	121 0	112 0	106 0	92 0	70 0
(Millions of cubic feet)							
First Decade	26 2	N/A	21 2	19 6	18 5	16 0	12 2
Fifth Decade	N/A	N/A	18 0	18 8	17 9	15 2	9 4
Suitable Timber Lands under Ponderosa Pine Management (Thousand Acres)	N/A	N/A	316	311	311	454	482
Harvest Methods, Clearcut (1,000 Acres)							
1st Decade	3 0	N/A	4 3	2 8	2 7	3 3	2 2
5th Decade	10 3	N/A	8 0	5 3	5 5	4 5	4 1
Acres Overstory Removal (1,000 Acres)							
1st Decade	22 3	N/A	10 5	9 6	8 6	6 3	5 8
5th Decade	0 2	N/A	0	0	0	0	0
Acres Uneven-aged Mgmt (1,000 Acres)							
1st Decade	N/A	N/A	4 1	5 2	5 7	6 4	5 0
5th Decade	N/A	N/A	4 4	5 8	6 1	6 8	5 7
Size of Average Tree Harvested (dbh, inches)							
1st Decade	N/A	N/A	22	22	22	22	22
5th Decade	N/A	N/A	16	16	16	16	15
10th Decade	N/A	N/A	14	14	14	16	16
Average over 150 year planning horizon	N/A	N/A	16 9	17 1	17 0	17 5	17 8

1/The Max PNV benchmark (with Management Requirements) is not a viable alternative, so is not directly comparable to the detailed alternatives Benchmarks were not updated to current technical and legislative changes which would change most resource outputs slightly If the Max PNV (with MR) benchmark was updated to 1990 conditions, it is estimated that ASQ and PNV outputs would be reduced by approximately 3-4 percent However, this benchmark remains suitable for making generalized comparisons to other alternatives

2/Changes in jobs (+515) and income (+$13 0 MM) for the No Change Alternative were projected assuming the potential yield (269 7 MMBF) displayed in the 1979 Timber Resource Plan would be harvested Jobs and income estimates were calculated in a comparable fashion to the other alternatives The 1979 Timber Resource Plan projected an increase of 266 jobs and $5 9 million, these estimates were generated employing different economic assumptions and methodology, and are not comparable to the jobs and income estimates presented for all other alternatives

TABLE II-12 (continued) Indicators of Response of Alternatives to Planning Issues and National Concerns (Average Annual Outputs)

Indicators of Response	Alternatives (In order of decreasing present net value) Max PNV (W/MR)	No Change NC	B-Mod	F	A	Preferred I	C-Mod
Big-Game Habitat							
Big-Game Use (Thousands of Wildlife and Fish Users Days)							
1st Decade	N/A	N/A	121 7	119 8	117 9	121 7	115 3
5th Decade	N/A	N/A	121 7	128 7	128 7	139 6	137 0
Habitat Effectiveness Index (Elk)							
1st Decade	N/A	N/A	56	55	54	56	53
5th Decade	N/A	N/A	56	59	59	64	63
Summer Elk Populations (1,000 Elk)							
1st Decade	N/A	N/A	13 4	13 2	13 0	13 4	12 7
5th Decade	N/A	N/A	13 4	14 2	14 2	15 4	15 1
Winter Elk Populations (1,000 Elk)							
1st Decade	N/A	N/A	5 7	5 6	5 5	5 7	5 4
5th Decade	N/A	N/A	5 7	6 0	6 0	6 5	6 4
Big Game Cover Quality (Index 0 5 low, 1 0 high)							
1st Decade	N/A	N/A	62	62	62	64	64
2nd Decade	N/A	N/A	56	59	61	66	70
Winter Range Enhancement (1,000 Acres)	0	0	0	0	0	0	35 1
Winter Range Maintenance (1,000 Acres)	0	0	76 6	194 1	0	177 4	115 8
Road Management							
Miles of Timber Purchaser Road Construction							
Decade 1	N/A	74	81	80	81	62	49
Decade 5	N/A	N/A	9	4	5	9	7
Miles of Open Roads							
1st Decade	N/A	N/A	6,500	6,500	6,500	6,500	6,500
5th Decade	N/A	N/A	6,500	5,400	5,400	4,550	4,550
Total Mileage of System Roads							
Decade 1	N/A	N/A	9,381	9,370	9,380	9,188	9,059
Decade 5	N/A	N/A	10,111	10,002	9,953	9,729	9,413
Riparian Areas and Fisheries							
Permitted Grazing Use in Riparians (1000 AUMs)							
Decade 1	N/A	N/A	23	23	36	22	18
Decade 5	N/A	N/A	23	23	36	22	21
Grazing Strategies Proposed for Unsatisfactory Riparian Areas - Shrub Utilization	N/A	67% Entire Pasture	0-20% Within Stream Corridor	0-20% Within Riparian Pasture	67% Within Unsat Pasture	0-35% Within Riparian Pasture	0-40% Entire Pasture
Anadromous Fish Harvest in First Decade (Thousands of Pounds)	N/A	N/A	40 1	34 4	26 8	37 0	44 9
Smolt Habitat Capability Index (1000s of smolt)							
Decade 1	N/A	N/A	196	168	131	181	219
Decade 5			297	277	154	326	399
Roadless Area Management							
Unroaded Areas Assigned to Unroaded Management (Thousands of Acres)	0	54 2	13 3	67 0	59 2	79 9	193 1
Management of Pine Creek FPA	Developed	Roadless	Available for development	Available for development	Roadless	Available for development	Wilderness Recommendation

Maximum Present Net Value Benchmark
Present Net Value: $472.6 million
Opportunity Costs: None This benchmark serves as a reference point.

The Maximum Present Net Value Benchmark identifies the mix of goods and services with market and assigned values that results in the largest excess of discounted benefits over discounted costs Management Requirements ensuring resource protection are met, and a high level of timber harvest on a nondeclining flow schedule is produced This benchmark is included as a reference point only

All economic indicators are higher than any of the alternatives. Similarly, timber management indicators are higher than any of the alternatives The big-game indicators are near the level of many of the alternatives Permitted grazing is higher than any of the alternatives, and other riparian and roadless indicators are lower than any of the alternatives.

No Change Alternative
Present Net Value: $381 7 million
Opportunity Costs: $ 90 9 million

The No Change Alternative is based on the 1979 Timber Resource Management Plan. This plan was not an integrated resource management plan, and not all resource uses and outputs were valued or considered Consequently, there are differences between this alternative and all other alternatives which make tradeoff comparisons invalid.

Present net value for this alternative was based on calculations included in the 1979 Timber Resource Management Plan; consequently, differing assumptions (both economic and the modeling of resource management strategies) underlying the formulation process for this alternative and all other alternatives make strict comparison of the various indicators unreliable.

Employment opportunities in the first decade (based on annual harvest of the 1979 TRP potential yield) would be the highest of all alternatives Payments to counties (calculated in the 1979 TRP) would be similar to Alternative A, the No Action Alternative; however, if the economic assumptions were comparable, the No Change Alternative may have higher payments to counties, reflecting the high level of timber harvest.

This alternative would continue the management policies and practices of the 1979 Timber Resource Management Plan, and applicable management practices specified in various Unit Plans Under this alternative, suitable timberlands would be higher than any other alternative, similarly, the timber harvest (i e , potential yield) would be the highest of all alternatives in the first decade Permitted grazing levels and acres of unroaded area retained in an unroaded condition are slightly higher than the levels proposed by Alternative A, No Action

Alternative B-Modified
Present Net Value: $350 5 million
Opportunity Costs $131 1 million

Alternative B-Modified has the highest present net value of any alternative except No Change Alternative B-Modified generates the highest amount of total discounted benefits of all alternatives through extensive investments in all aspects of Forest management, the discounted costs of this alternative are also higher than any other alternative

Employment opportunities are the highest of all alternatives in the first decade (excluding the NC Alternative), and over the planning period (50 years) this alternative would result in more employment opportunities than any other alternative Payments to counties would increase over time to be the highest of all alternatives.

The most significant tradeoff associated with Alternative B-Modified is the amount of unroaded area retained and the acres of suitable timberland available This alternative retains less area in an unroaded area than any other alternative Alternative B-Modified has the most suitable timberland of all alternatives, and correspondingly, the highest timber output by the fifth decade Anadromous fish outputs (commercial fish harvests and sportfishing use) are the second highest of all alternatives because of habitat improvements which support higher populations. This alternative results in the lowest amount of old growth retained, this occurs because of the development of most unroaded areas, and the large number of acres harvested in timber management activities

Selected Increased Benefits Compared to the Max PNV Benchmark

1. Commercial anadromous fish harvests, first decade (+8,000 pounds of fish)
2 Permitted grazing, first decade (+36,000 animal unit months)
3. Unroaded areas assigned to unroaded management (+13,300 acres)

Selected Decreased Benefits Compared to the Max. PNV Benchmark

1 First decade jobs (-319)
2 Allowable sale quantity, first decade (-3 7 million cubic feet)
3. Suitable timber lands (-39,300 acres)
4 Present Net Value (-$122 1 million)
5 First decade net receipts (-$3 6 million)
6 Ponderosa pine offered, first decade (-28 6 million board feet)

Alternative F

Present Net Value $328 3 million
Opportunity Costs $122 3 million

Present net value for Alternative F is $22 2 million less than Alternative B-Modified, and it also has lower discounted benefits and costs

Alternative F adds a moderate number of jobs to the local employment base through a sustained increase in timber outputs over historical levels (levels supported by 1980-89 outputs). Payments to counties in the first decade would be the second highest of all alternatives, and only 8 percent less than Alternative B-Modified

When compared to Alternative B-Modified, Alternative F shows reductions in almost all outputs An exception is the increase in unroaded areas assigned to unroaded management

Selected Increased Benefits Compared to Alternative B-Modified

1 Unroaded areas assigned to unroaded management (+53,700 acres)

Selected Decreased Benefits Compared to Alternative B-Modified

1 Present Net Value (-$22.2 million)
2 Suitable timber lands (-37,100 acres)
3 Permitted grazing (-3,000 animal unit months)
4. First decade jobs (-139) and income (-$4 6 million)
5. Allowable sale quantity, first decade (-3 1 million cubic feet)
6. Ponderosa pine offered, first decade (-9 0 million board feet)
7 Commercial anadromous fish harvests, first decade (-5,700 pounds of fish)

Alternative A

Present Net Value $300 2 million
Opportunity Costs: $120.8 million

Alternative A has lower present net value, discounted benefits and discounted costs than Alternative F.

Since Alternative A continues the existing direction of management, there is no significant change in the level of local employment

Withe the exception of permitted range use, most outputs from this alternative are somewhat less than Alternative F Range use is higher because of the higher permitted utilization standards in the existing direction

Selected Increased Benefits Compared to Alternative F

1. First decade permitted range use (+14,000 AUM)

Selected Decreased Benefits Compared to Alternative F

1 Present Net Value (-$28 1 million)
2 First decade jobs (-96) and income (-$3 2 million)
3 Allowable sale quantity, first decade (-2.3 million cubic feet)
4. Ponderosa pine offered, first decade (-6 0 million board feet)
5 Commercial anadromous fish harvests, first decade (-7,600 pounds of fish)
6. Unroaded areas assigned to unroaded management (-7,400 acres)

Alternative I

Present Net Value $256 6 million
Opportunity Costs $168 7 million

Present net value for Alternative I is about 14 percent less than the present net value of Alternative A Primary reasons for lower present net value (when compared to Alternative A) are lower annual timber harvests, more selection harvesting (i.e., uneven-aged management), and higher levels of wildlife protection and management programs

Alternative I reduces the number of jobs in the local employment base by 161 and payments to counties are six percent less than Alternative A in the first decade

When compared to Alternative A, the tradeoffs include 1) more intensive riparian area management with an emphasis on improving the condition of unsatisfactory riparian areas; 2) acres allocated to more intensive wildlife emphasis prescriptions, 3) acres allocated to unroaded management status, 4) more extensive use of uneven-aged management, and 5) reductions in timber harvests and permitted grazing (i e., commodity outputs) due to 1, 2, 3, and 4 above Anadromous fish production increases as a result of riparian area management strategies, while permitted grazing declines. Ponderosa pine harvest levels are lower in the first decade, however in contrast to Alternative B-Modified and other alternatives with high harvest levels, Alternative I emphasizes the long-term production of ponderosa pine from most sites currently producing that species More extensive use of uneven-aged management would occur under Alternative I, which maintains the existing characteristics of some visually sensitive areas outside of established visual corridors Some acres would be allocated to wildlife emphasis prescriptions, resulting in wildlife or recreation benefits and varying reductions in timber harvests.

Selected Increased Benefits Compared to Alternative A

1. Unroaded areas assigned to unroaded management (+20,700 acres)
2. First decade Habitat Effectiveness Index (+ 02 on the index)
3. Big Game Use (+3 8 Thousand WFUDs)
4 Decade 5 old growth retained (+18,500 acres)
5 Commercial anadromous fish harvests, first decade (+10,200 pounds of fish)

Selected Decreased Benefits Compared to Alternative A

1 Present Net Value (-$43.6 million)
2. First decade jobs (-161) and income (-$5 3 million)
3 Allowable sale quantity, first decade (-3 8 million cubic feet)
4 Ponderosa pine offered, first decade (-14 0 million board feet)
5. Permitted grazing (-18,000 animal unit months)

Alternative C-Modified

Present Net Value $126 4 million
Opportunity Costs $292 5 million

Present net value of Alternative C-Modified is about 51 percent lower than the present net value of Alternative I, this alternative has the lowest present net value of all alternatives, and the market opportunity costs (i e the value of opportunities foregone) are greater than the present net value When compared to Alternative I, present net value is lower because of reductions in timber harvesting and permitted grazing

Employment opportunities would be reduced from recent levels (80-89 average), more so than any other alternative Payments to counties would be the lowest of all alternatives Unlike any other alternative, this alternative would emphasize the production of open, parklike stands of large, mature ponderosa pine (with resultant losses in economic efficiency) A primary difference between this and any other alternative is that Alternative C-Modified retains all Rare II inventoried Roadless Areas in an unroaded condition. (Pine Creek Roadless Area would be recommended for wilderness designation) The retention of the unroaded areas results in a corresponding loss of suitable timberland, Alternative C-Modified has the lowest amount of suitable timber land available among all alternatives. Another important tradeoff of this alternative is the rapid improvement of Forest riparian areas while permitted livestock grazing use is reduced About 28 percent of the Forest would be unavailable for utilization by cattle in the first 15 years, most areas where cattle would be excluded are pastures containing riparian areas which are currently in less than satisfactory condition Because of the rapid improvement in the riparian areas and accompanying habitat improvements, anadromous fish production would be higher than in any other alternative

Selected Increased Benefits Compared to Alternative I

1 Commercial anadromous fish harvests, first decade (+5,500 pounds of fish)
2 Unroaded areas assigned to unroaded management (+113,200 acres)
3 Minimized use of clearcut harvest regimes, first decade (1 1 thousand acres less per year)

Selected Decreased Benefits Compared to Alternative I

1. Present Net Value (-$130 2 million)
2 First decade jobs (-412) and income (-$13 6 million)
3 Allowable sale quantity, first and fifth decades (-9 3 million cubic feet)
4. Suitable timber lands (-65,600 acres)
5 Ponderosa pine offered, first decade (-22 0 million board feet)
6 Permitted grazing, first decade (-37,000 animal unit months)